

CHAPTER 10 RAILROAD/HIGHWAY AT-GRADE CROSSING**CONTENTS**

Section	Subject	Page Number
10.1	INTRODUCTION	10-1
10.2	PROJECT ELIGIBILITY	10-1
	Railroad Corridor Projects.....	10-2
10.3	PROJECT SELECTION AND PROGRAMMING PROCEDURES.....	10-2
	Priorities For Funding Approved Projects.....	10-3
10.4	PROJECT FUNDING	10-4
	Appropriation Codes	10-4
	Federal Share of Cost	10-4
	Railroad or Local Share of Cost.....	10-4
10.5	ELIGIBLE COSTS	10-5
10.6	PROJECT DEVELOPMENT REQUIREMENTS	10-5
	Design	10-5
	Environmental Review	10-6
	Railroad Facilities Statement in Right of Way	
	Certifications	10-6
	Local Agency/Railroad Agreements	10-6
	Railroad Easement Agreements	10-7
10.7	PROJECT IMPLEMENTATION	10-7
10.8	PROGRAM ADMINISTRATION	10-8
	Status of Projects	10-9
	Cost Increases/Time Extensions	10-9
	Evaluation	10-9
10.9	CUSTOMER FEEDBACK	10-9

EXHIBITS

Exhibit	Description	Page Number
10-A	PROJECT STATUS REPORT	10-11
10-B	PROJECT EVALUATION SHEET	10-13
10-C	FORM G	10-15

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CHAPTER 10 RAILROAD/HIGHWAY AT-GRADE CROSSING

10.1 INTRODUCTION

The purpose of the Railroad/Highway At-Grade Crossing Program is to reduce the number and severity of highway accidents by eliminating hazards to vehicles and pedestrians at existing railroad crossings. The program is authorized by Title 23, United States Code, Section 130 (23 U.S.C. 130), and addresses the development of railroad/highway at-grade crossing improvement projects.

10.2 PROJECT ELIGIBILITY

Railroad highway at grade crossing improvement projects include, but are not limited to:

1. Installation and upgrade of railroad protection systems to a state-of-the-art condition at grade crossings, such as:
 - Warning devices
 - Illumination and signals
 - Site and surface improvement
2. Grade crossing eliminations via:
 - Relocation or realignment of highway(s)
 - Relocation or realignment of railroad(s)
 - Closure of crossing(s)

To clarify the difference between Closure and Abandonment, the following definitions are used:

Closure of a highway/railroad grade crossing - A condition that occurs when vehicular traffic is removed from conflict with railroad traffic at-grade through the construction of physical barriers that prevent such conflicts or the removal of the vehicular roadway, i.e., pavement from the crossing.

Abandonment of a highway/railroad grade crossing - A condition that occurs when railroad traffic is removed from conflict with at-grade vehicular traffic through the cessation of all railroad operation, or the removal of tracks from the crossing.

Note: The California Public Utilities Commission (CPUC) recommends the types of improvements which are needed to eliminate vehicular and pedestrian hazards. Because of the limited amount of funds the CPUC must be included to clarify the extent of relocation or realignment of highway and railroad projects that are eligible under the 130 program. Moreover, railroad/highway at-grade crossing must be included on the list of public crossings recommended for improvement by the CPUC to qualify for Federal funds. Improvements not listed by the CPUC will not be funded via Section 130.

A project must satisfy the following requirements to qualify for Federal funds:

- Project must be on a public road

- Project must be sponsored by a City or a County or a Railroad Company.
- The railroad/highway crossing must be included on the PUC's "Recommended List of Public Crossings in California for Improved Crossing Protection with Federal Funding."
- Projects (or lump sums to cover all projects) must be included in the appropriate Federal Transportation Improvement Program (FTIP) developed by Metropolitan Planning Organization (MPO) and the Federal Statewide Transportation Improvement Program (FSTIP) approved by the Federal Highway Administration (FHWA).

Improvements to grade crossings to accommodate both existing and future commuter and intercity passenger trains shall, to the extent possible, be paid for by special funds established for creation of additional commuter and intercity passenger service and not with Section 130 funds.

Projects are evaluated under existing conditions and any roadway widening projects to improve roadway capacity will not be considered. Additionally, projects that are funded will not be eligible for ten years.

RAILROAD CORRIDOR PROJECTS

A corridor is a project consisting of two or more crossings and shall include safety improvements for any additional crossings located within the circuitry limits of the primary crossings to be improved.

A corridor shall be limited to a maximum estimated cost of \$1 million (exceptions may be approved by Caltrans).

Maximum estimated funds allotted for corridor improvements may be less than, but not exceed, 60 percent of Section 130 funds.

A project may be phased over subsequent years dependent upon funding for its corridors.

Corridors shall be selected by Caltrans coordinating with CPUC, using CPUC hazard index as a basis for establishing priorities.

10.3 PROJECT SELECTION AND PROGRAMMING PROCEDURES

Section 1201 of the CPUC Code provides that no public road, highway, or street shall be constructed across the track of any railroad at-grade, nor shall the track of any railroad be constructed across a public road, highway, or street without first securing permission from the CPUC. CPUC permission is also required to alter, relocate, abandon, or close any railroad/highway crossing.

All applications or notices to the CPUC to construct or alter any grade crossing on a county road or city street are filed by the local agency. Applications or notices should be filed as soon as the plans are sufficiently developed to show work proposed at the crossing. Three (3) copies of the application and three (3) copies of the CPUC decision shall be furnished to the District. The CPUC should be requested to reply in respect to the adequacy of the proposed protection. The definitions of **Application** and **Notice** are contained in CPUC General Order (GO) 88-A.

Lump sum amounts for this program must be included in the FTIP developed by each Metropolitan Planning Organization and in the FSTIP in order to obtain Federal authorization and obligate funds. A multi-year (four-years) program list is developed by Caltrans and is updated every year on a schedule that provides a list of approved projects prior to the date that Caltrans and the MPOs need the information to build their FTIPs. Following is the schedule and procedures for developing this multi-year program:

1. Pursuant to Section 1201 of CPUC, the local agency contacts CPUC to determine the project eligibility and recommendations for improvement, using Federal funding. The local agency must be ready to provide the funding commitment and the railroad must be ready to provide the construction commitment. This process may involve a field review with representatives of the affected railroads, CPUC and Caltrans.
2. The local agency makes a preliminary commitment to fund the non-Federal share of the project's cost by submitting a letter to Caltrans and CPUC.
3. PUC submits a list of projects eligible for Section 130 funding to the Caltrans, Office of Local Programs (OLP), by March 1 of each year.
4. Office of Local Programs reviews the PUC list of eligible projects and, in consultation with affected local agencies and railroads, prepares a draft multi-year funding plan by May 1 of each year.
5. Each year in May, Caltrans meets with the committee before formalizing a multi-year plan.
6. Office of Local Programs sends the draft funding plan by May 1 of each year to: Local agencies for confirmation of their 10 percent contribution and schedule, and railroad companies for their confirmation of costs and schedules.
7. Local agencies and railroad companies send their input on costs and schedules to OLP by June 15 of each year.
8. OLP transmits the approved funding list to Caltrans districts, local agencies, railroads, CPUC and MPOs by July 1 of each year.

PRIORITIES FOR FUNDING APPROVED PROJECTS

The funding list for the multi-year plan will be updated every year. The funding of the projects will be on a first come first serve basis from October 1 until July 1 of each fiscal year. If an agreement is not requested by July 1, and the funding balance is available, projects from the next fiscal year will be eligible for advanced funding. The funding for this program must be obligated by June 30 of each year, otherwise the unobligated funds will be reverted back to the State Highway Account.

A participant (e.g., Caltrans, local agency, railroad) may advance the program year of a project if another project in the desired year is not delivered. Such an action requires negotiations between the effected railroad, local agency, and Caltrans.

10.4 PROJECT FUNDING

APPROPRIATION CODES

There are two Federal appropriation codes available for this program:

- STPLR Railway/Highway Crossings, Protective Devices @ 90% 33M
- STPLR Railway/Highway Crossings, Elimination of Hazards @ 90% 33N

At least half of the funds authorized for and expended under this program shall be available for the installation of protective devices at railway/highway crossings.

FEDERAL SHARE OF COST

Federal funding for the Railroad/Highway Grade Crossing Program is derived from the annual apportionment for the Surface Transportation Program (STP). Ten percent of the annual STP apportionment is reserved for the safety programs defined by Sections 130 (railroad/highway crossing improvements) and 152 (hazard elimination projects). The estimated program funding level for the Railroad/Highway Grade Crossing Program is approximately \$8 million per year.

RAILROAD OR LOCAL SHARE OF COST

The non-Federal share of project costs is normally the responsibility of the local agency with jurisdiction for the highway/railroad grade crossing. Under ISTEA, the Federal share of participation on Section 130 projects is 90 percent. Generally, the local agency is responsible for the non-Federal share of 10 percent. The commitment to pay the 10 percent is established through the execution of a Program Supplement Agreement to the Master Agreement between the State and the local agency.

Failure of the local agency to honor commitments made in the Program Supplement contract with Caltrans results in a reduction of the local agency's claim on future gasoline tax revenues.

State law requiring railroads to share in the cost of work at railroad/highway grade crossings does not apply to Federal-aid projects.

Pursuant to Title 23 U.S.C. 130(b) and 49 Code of Federal Regulation (CFR) 1.48:

- There shall be no required railroad share of the costs for grade crossing improvements.
- There shall be no required railroad share of the costs for grade crossing improvements that involve the elimination of grade crossings at which active warning devices are not in place nor have been ordered installed by the CPUC.
- The railroad share of projects that involve the closing of grade crossings at which active warning devices are in place or have been ordered installed by the CPUC shall be five percent (5%).

Railroads may voluntarily contribute a greater share of project cost than is required. Also, other parties may voluntarily assume the railroad's or local agency's share.

The local agency is responsible for maintaining advance warning signs and pavement markings according to the specifications of Chapter 8 of the *Manual on Uniform Traffic Control Devices for Streets and Highways*, (MUTCD).

State Grade Crossing Improvement funding available through the Clean Air and Transportation Improvement Act of 1990 is obtained through local agency application with the California Transportation Commission (CTC).

10.5 ELIGIBLE COSTS

Work performed prior to Federal project authorization (see Chapter 3, "Project Authorization" in the *Local Assistance Procedures Manual*) is not eligible for Federal reimbursement via Section 130.

Section 130 funding is not available for removal of abandoned railroad tracks on previously abandoned railroads. If a railroad crossing is on the PUC recommended list of projects and the railroad chooses to abandon the crossing, rather than improve it, the cost for track removal and other abandonment costs at the crossing will be eligible under this program.

Federal funds are not available to cover costs incurred solely for the benefit of the railroad. Federal funds may participate in the cost of providing space for future track requirements when it is established to the satisfaction of CPUC, Caltrans and the Federal Highway Administration (FHWA), that additional tracks will be needed within a reasonable amount of time. Specifically, the railroad companies must first file an application with the CPUC for authority to add any such tracks at a crossing; and the level of funding participation based on an approved application, will require CPUC, Caltrans and FHWA concurrence.

10.6 PROJECT DEVELOPMENT REQUIREMENTS

Projects are processed in accordance with project implementation procedures outlined in Chapter 2 "Roles and Responsibilities" in the *Local Assistance Procedures Manual*. The OLP Program Manager (Railroad/Highway At-Grade Crossing Program) typically authorizes the project phases and processes the request for fund obligation to the FHWA.

DESIGN

Facilities that are the responsibility of the railroad for maintenance and operation shall conform to the standards established in the State of California Public Utilities Code (PU Code) and CPUC General Orders (GO). Any deviation from these standards are subject to CPUC approval.

Restrictions apply when a railroad/highway grade crossing is located within the limits of or near the terminus of a Federal-aid project for construction of a highway or improvement of an existing highway. For such a location, the crossing shall not be opened for unrestricted use by traffic, or the project accepted by Caltrans and CPUC until adequate warning devices, advance warning signs, and pavement markings are installed and functioning properly.

On projects where Federal-aid funds are used, the type of protection needed is determined by the CPUC.

For crossings where automatic gates with flashing light signals are not required, the type of warning device to be installed is subject to the approval of Caltrans and the CPUC.

Traffic control devices and pavement markings shall comply with the latest edition of the MUTCD supplemented to the extent applicable to State standards and the current Association of American Railroads (AAR) *Bulletin on Recommended Practices for Railroad/Highway Grade Crossing Warning System*. State standards require advance warning signs (W47) at all crossings. Such grade crossing warning devices should also comply with the CPUC Standards as specified in CPUC's General Orders.

ENVIRONMENTAL REVIEW

Local agencies are also responsible for conducting and documenting the necessary environmental reviews to ascertain any adverse environmental impacts, see Chapter 6 "Environmental Procedures" in the *Local Assistance Procedures Manual*. Based on past experience, Grade Crossing Improvements Program projects, typically do not involve significant environmental impacts, and qualify as "Categorical Exclusions (CEs)" when such projects:

- Do not induce significant impacts to planned growth or land use for the area
- Do not require the relocation of significant numbers of people
- Do not have a significant impact on any natural, cultural, recreational, historic or other resource
- Do not involve significant air, noise, or water quality impacts
- Do not have significant impacts on travel patterns
- Do not otherwise, either individually or cumulatively, have any significant environmental impacts

Rule 17.1 of the CPUC Rules of Practice and Procedure should also be addressed by the local agencies in their environmental reviews.

RAILROAD FACILITIES STATEMENT IN RIGHT OF WAY CERTIFICATIONS

Local agency certifications regarding the status of affected railroad facilities must be verified. Documentation as to the acceptability of the local agency railroad facility arrangements must be on file before the right of way local assistance coordinator prepares the local agency certification form for signature by the appropriate right of way representative.

LOCAL AGENCY/RAILROAD AGREEMENTS

Where construction of a Federal-aid project requires the use of railroad properties or the adjustment to railroad facilities, there shall be an agreement in writing between the local agency and the railroad. A copy of the proposed agreement must be sent to the appropriate Caltrans district for review. No special form of written agreement is available. Such agreements usually consist of a formal document signed by officers who are authorized to bind the parties thereto. In appropriate cases, the agreement may consist of an exchange of correspondence which sets forth all the essential terms and conditions. A format similar to a Caltrans Service Contract is recommended.

The written agreement between the local agency and the railroad shall include the following where applicable:

- A clause stating, *“The Company’s books pertaining to the work shall be open to inspection and audit by representatives of the State and FHWA for a three-year period after FHWA payment of final voucher”*
- A detailed statement of the work to be performed by each party
- A method of payment
- The extent to which the railroad is obligated to move or adjust the facilities at its own expense
- The railroad’s share of the cost
- An itemized cost estimate of the work to be performed by the railroad
- The method to be used for performing the work, either by railroad forces or by contract
- Identification of the party or parties responsible for maintenance
- The form, duration, and amounts of any needed insurance
- References to plans and specifications
- A definition of those conditions, under which protective services will be performed by the railroad during the work. The nature of such protective services will be defined, along with a method of reimbursement to the railroad
- Whatever detailed plans of the existing situation the local agency may have that will aid the railroad in the expeditious design and construction of the proposed improvement

When requested in writing by the local agency, the district shall negotiate a service contract with the railroad on the local agency’s behalf.

RAILROAD EASEMENT AGREEMENTS

The local agency enters into its own easement agreement with the railroad to secure the necessary rights of way. A copy of the fully executed easement agreement shall be furnished to the District.

10.7 PROJECT IMPLEMENTATION

1. As soon as possible, the local agency shall furnish the railroad plans of proposed work.

The plans should be drawn to scale and should show the following:

- Plan of crossing
- Existing and proposed protection
- Width of paving
- Tracks
- Significant topography
- Limits of right of way
- A profile of highway approaches
- Other details sufficient to allow proper location of protective devices

This procedure is followed to aid in maintaining a high level of communication between the railroad and the local agency, in order to coordinate construction of each parties’ responsibilities.

2. Upon receipt of the approved multi-year program from Caltrans, the railroad submits an estimate for Force Account work.
3. Caltrans executes a service contract with the railroad and assigns Federal funding according to the funding prioritization schedule. Funding will not be obligated on grade crossing improvement projects that have pending right of way acquisitions.
4. A Program Supplement Agreement is executed between Caltrans and the local agency to complete the commitment of local participation.
5. After the Service Contract and the Program Supplement Agreement are executed, Caltrans' Office of Local Programs, sends a "Notice to Proceed" with construction of the crossing improvement project to the railroad company.
6. The railroad performs Force Account work, or, if non-railroad (highway) work is involved, the contract is awarded through competitive bidding. On Force Account projects, the railroad shall submit to Caltrans, Office of Local Programs (HQ) four (4) copies of invoices according to the form described in the Service Contract. Caltrans audits all bills for compliance with applicable Federal regulations to determine the eligibility of the items.
7. Railroad company is expected to begin work immediately, and complete the project within two years.
8. The local agency is responsible for installing and maintaining advance warning signs and pavement markings.
9. The railroad issues an "in-service" letter when work is complete. Also, the railroad must file a Form G (Exhibit 10-C) with CPUC, in order to notify Commission staff to perform a final inspection.
10. Caltrans performs an inspection with, or in consultation with, the CPUC, to determine if the project is complete, and makes final payments, submits final vouchering, and performs an audit.
11. Caltrans performs a project audit, responds to any audit exceptions and prepares a Final Voucher for submittal to FHWA.
12. FHWA approves the Final Voucher and Caltrans completes final payment of project funds.
13. The railroad and the local agency must keep records and documentation for three years after the final audit is completed.

10.8 PROGRAM ADMINISTRATION

This program is administered centrally from Caltrans' Headquarters on a statewide basis. Caltrans has formed the Highway/Railroad Grade Crossing Safety Committee to assist it in implementing this program and obligating fund apportionments in a timely manner. Representatives of cities, counties, railroads, Caltrans, and the PUC are members of the committee.

STATUS OF PROJECTS

Local agencies and railroad companies are required to provide an update of project schedules and costs on January 1 and July 1 of each year. Local agencies that fail to provide these semi-annual updates will result in their projects being dropped from the program. The updates will include the following information, as necessary (See Exhibit 10-A):

- An update on the cost, if the cost has been changed
- An update of the construction year
- Identification of projects that can be advanced

If projects are delayed, and other projects can be delivered early, preference will be given to advancing projects in the same local agency or Metropolitan Planning Organization (MPO) where the project delay occurred.

If no action of any kind has occurred on a project over a period of six months after "Notice to Proceed", Caltrans will request review of project progress from the Railroad and/or the local agency. This information is needed to ensure timely project delivery. If the project is experiencing significant delays, the agreement may be canceled so that the funds can be programmed on other projects.

COST INCREASES/TIME EXTENSIONS

If any increase in cost or need for a time extension is anticipated, it should be immediately brought to the attention of the Office of Local Programs for a review of the justification of the cost increase and/or schedule change before expiration of the agreement. This should be done before expenditures are incurred in excess of the contract amount. If this increase in cost and/or schedule change is adequately justified, and approved by the Office of Local Programs, a new service contract supplement will be initiated, followed by a "Notice to Proceed". A copy of the Service Contract Supplement for cost increase and/or time extension will be provided to the local agency.

EVALUATION

Federal directives require that the results of Safety Improvements be evaluated three years after the project is completed. Each project listed must have a before-and-after evaluation. Safety deficiencies corrected by this program largely justifies the prioritizing methods and future funding. A sample Project Evaluation form is included as Exhibit 10-B.

10.9 CUSTOMER FEEDBACK

Caltrans is always interested in improving the quality of its procedures. Please contact Headquarters, Office of Local Programs if you have any suggestions in improving the effectiveness of these operating procedures and guidelines of the Railroad/Highway At-Grade Crossing Program.

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PROJECT STATUS REPORT

DATE: _____

CITY OR COUNTY OF _____

PUC CROSSING NUMBER: _____

LOCATION: _____

RAILROAD COMPANY: _____

10% SHARE: _____

10% LETTER: _____

DESCRIPTION OF PROJECT _____

PREVIOUS PROGRAM YEAR: _____

REVISED PROGRAM YEAR: _____

HAS THIS DATE CHANGED FROM DATE SHOWN ON APPLICATION? YES NO

IF "YES," EXPLAIN REASON FOR DELAY: _____

ORIGINAL COST ESTIMATE: \$ _____

COST ESTIMATE AS OF THIS REPORT: \$ _____

REASON FOR DIFFERENCE (INCREASE OR DECREASE): _____

_____OTHER COMMENTS: _____

_____PREPARED BY: _____
RAILROAD/AGENCY NAME: _____
TELEPHONE: _____

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PROJECT EVALUATION

AGENCY _____ PROJECT NUMBER: STPLR-

PROJECT LOCATION:

TYPE OF WORK:

ACCIDENT DATA

FATAL
INJURY

PROPERTY DAMAGE ONLY

ADT

BEFORE: TOTAL LAST 3 YRS.

AFTER: TOTAL LAST 2 YRS.

PHOTOGRAPHS

PHOTOGRAPHS

PHOTOGRAPHS

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PUBLIC UTILITIES COMMISSION
OF THE
STATE OF CALIFORNIA

MONTH OF _____

	CROSSING No	COUNTY	NATURE OF CHANGE AND REFERENCE TO PUBLIC AUTHORITY	DATE EFFECTIVE

REPORTING OFFICER

INSTRUCTIONS

1. One report should be made each month for each operating railroad. If no changes have occurred during the month, the report should so state.
2. Use crossing numbers as assigned by the Public Utilities Commission.
3. Show all changes in crossing protection, including changes in hours of operation.
4. Show installation or removal of tracks across highways, giving reference to authority from this Commission, if any. State width and type of crossing installed and type of protection provided.
5. Show installation, removal or alteration of highway crossings, giving reference to authority from this Commission, if any. State width and type of crossing installed and type of protection provided.
6. Show installation or abandonment of grade separations.
7. Where a number has not been assigned to a crossing, request for such assignment should be made on this form, showing mileage number, number and character of tracks, protection provided and local name of highway. The reason for requesting the number should be stated and if recently constructed, give reference to public authority under which the construction was undertaken.